

RGP-0045

Remarks:

Claims 1-34 are pending in the present application. Claims 21-31 and 34 have been withdrawn from consideration. The Applicants representative has additionally designated claim 33 as being withdrawn from consideration, as it is also directed to a laminate. No new matter has been introduced by these amendments.

Reconsideration and allowance of the claims is respectfully requested in view of the above amendments and the following remarks.

Claims 1-20 and 32-33 stand rejected under 35 U.S.C. § 102(b), as allegedly being anticipated by GB 2,327,681 ("GB '681"). According to the Examiner, GB '681 discloses the preparation of polyurethane foams prepared from isocyanates having functionalities as low as those claimed, i.e., less than or equal to 2.15, as well as polyols having hydroxyl functionalities as low as those claimed, i.e., less than or equal to 2.14. Applicants respectfully traverse this rejection.

Applicants have unexpectedly found that thermoformable polyurethane foams having excellent properties such as thermoformability and compression set resistance can be manufactured from compositions having the claimed functionalities. GB '681 generally discloses the possible use of isocyanates having low functionalities individually, but does not explicitly disclose use of an isocyanate-containing component having an average functionality of less than or equal to 2.15. This may be seen most clearly by reference to Table 1 of GB '618, which shows use of six different isocyanate compositions. Isocyanate A is disclosed as having a functionality of 2.7, and isocyanates B and C have functionalities of 2.0. However, the actual isocyanate components used to form the polyurethanes use Isocyanate A or a mixture of Isocyanate A with Isocyanate B or Isocyanates B and C. Sample 6 has an isocyanate composition of the lowest average functionality, about 2.43. None of these examples fall within the range of less than or equal to about 2.15, and none would produce a foam that after cure is thermoformable.

While GB '681 is titled "Polymeric MDI composition for use in thermoformable foams", the described compositions are not thermoformable as that term is commonly understood. GB '681 describes instead polyisocyanate compositions that may be formed into shapes by injection

RGP-0045

molding, or that may be used as binder/hardeners for pre-formed foams. Thus, the reactive compositions may be combined in a mold and cured as is commonly known. Alternatively:

[a] prefoamed product is impregnated with a predetermined amount of the polyisocyanate composition at the desired locations in order to provide the product with different degrees of flexibility. Thereafter, the isocyanate reactive composition is applied to the prefoamed sheet in contact with the polyisocyanate composition of the present invention. As soon as the polyisocyanate and isocyanate reactive composition begin to become tacky during polymerization, a decorative coating is generally applied over the coated surface and the entire product is inserted into a mold wherein the final product is formed at elevated temperatures.

(Page 12, line 35 et seq.)

GB '681 thus describes reactive compositions that are used to coat a previously-produced foam. This coated foam is then placed in a mold and heated to thermoform the underlying foam and complete the curing of the reactive coating composition. The coating composition is therefore used as a reactive binder to hold the previously produced foam into the desired shape.

GB '816 goes on to list a number of physical properties of the resulting coated and molded foam. None of these properties are indicative as to whether the final product could then be further thermoformed by itself without another coating and curing process. It is therefore believed that GB '816 fails to teach or suggest the thermoformable foams of the present claims, and reversal of the rejections is respectfully requested.

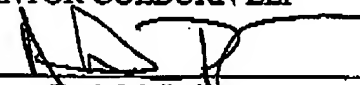
It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicants' attorneys.

Respectfully submitted,

CANTOR COLBURN LLP

By


Leah M. Reimer

Reg. No. 39,341

Date: January 5, 2004
Customer No.: 23413
Telephone: (860) 286-2929